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No. 3 is from "Holland's Cliffs," three miles south of "Lower Marlboro'," and is thirty feet thick.

No. 4 is from the "Cove," on the south side of Herring Bay, eight miles east of Nos. 1 and 2.

Prof. Tyson has traced this "Tripoli region" from near the head of West River, in Anne Arundel County, twenty-five miles southward, to Prince Frederick, in Clavert County. It may be found to extend eighteen or twenty miles further south, to near the lower end of Calvert County. It is well exposed in high cliffs on the Patuxent, as well as on the Chesapeake Bay. It probably extends over most of Charles County, and of the southern part of Prince George County.

It belongs to the Miocene period, and rests upon the most important fossil shell bed of the Tertiary region. Prof. Tyson states that Dr. C. Johnson has made out more than one hundred forms of Diatoms in No. 3.

Dr. Fisher exhibited a stereoscopic picture of a parasitical insect, taken by means of a new and ingenious arrangement of the ordinary microscope, by Dr. R. E. Griffith. The insect was magnified between 20 and 25 diameters.

December 18th.

Vice-President BRIDGES in the Chair.

Forty members present.

The following papers were presented for publication in the Proceedings:—

"Description of some new Species of Tertiary Fossils from Chiriqui, Central America, by Wm. M. Gabb."

"Descriptions of three new Species of Star-fishes from Cape San Lucas, Lower California, by John Xantus."

"Descriptions of new North American Coleoptera, in the Cabinet of the Entomological Society of Philadelphia, by George H. Horn."

"Catalogue of Colubridæ in the Museum of the Academy of Natural Sciences of Philadelphia, &c., Part 3, by E. D. Cope."

And were referred to Committees.

December 25th.

Vice-President BRIDGES in the Chair.

Twenty-nine members present.

On report of the respective Committees, the following papers were ordered to be published in the Proceedings:—

The Humming Birds of Mexico.

BY RAFAEL MONTES DE OCA,

Of Jalapa, Mexico.

No. 3.

CAMPYLOPTERUS PAMPA, Gould.

ORNISMYIA PAMPA, Lesson.

PAMPA CAMPYLOPTERA, Reichenbach.

The people of Coatepec, nine miles from Jalapa, give to this species of Humming Bird the name of *Chupa-mirto fandanguero* or Fandango Myrtle-sucker, 1860.]

for the reason, apparently, that it has a somewhat musical voice. It is the only Humming Bird which to my knowledge has any notes which are sufficient to recognize it by in the woods, and though rather monotonous, are quite pleasing.

In the neighborhood of Jalapa this species is found occasionally, but in the above-mentioned place is more abundant, although very difficult to obtain. It inhabits the forest in the winter season, and generally feeds on the flowers of high bushes called *Asasaretos*, which at that season are in full bloom and densely covered with beautiful smooth emerald green leaves, amongst which it is very difficult to see this bird, though it often betrays itself by its musical notes, especially in the morning. The males, I think, only sing, or at least much more than the females.

Very few specimens of this kind are seen in summer time in this neighborhood. It is found also near Cordova, and goes as far south as Guatemala, where perhaps it builds its nest, for I have never seen nor heard of a nest being found here.

The general appearance of this species is as follows : the upper part of the head is beautiful metallic ultramarine color. Wing coverts and tail coverts, and upper part of the body bronze green. Throat, under wing coverts, breast and belly, iron gray color, and the under tail coverts the same, but tinged with chestnut. Quills purplish black with the vanes black and resembling whalebone, the three principle ones rather wider than common. Tail feathers yellowish bronze green, all except the two central, with the half towards the point bluish black, three on each side tipped with chestnut iron gray. The feet are dark iron gray, nails and upper mandible black, under mandible iron gray. Its size from the point of the bill to the tip of the tail is from $5\frac{1}{2}$ to $5\frac{3}{4}$ inches, wing $2\frac{3}{4}$, tail 2, bill $1\frac{1}{2}$ inches. The female is almost precisely like the male, with the difference of about $\frac{1}{8}$ of an inch in size, and either less blue or with it less brilliant on the top of the head.

No. 4.

THAUMASTURA ELIZÆ, Gould.

TROCHILUS ELISA, Lesson.

MIRTIS ELISA, Reichenbach.

LUCIFER ELISA, Bonaparte.

CALOTHORAX ELISA, G. R. Gray.

This species of Humming Bird is one of the rarest that is found in Mexico. It is small, very beautiful, and possesses wonderful rapidity of flight, moving its wings with such velocity that it is almost impossible to see them when flying, and it may easily be mistaken for a large bee on account of the strange buzzing sound produced by their incessant motion. In the vicinity of Jalapa this bird is called *Mirto de colo de tisera*, or the shear-tailed Myrtle-sucker.

This Humming Bird is extremely shy, and differs in its habits and manner of living from other species. It rises very early in the morning, and the few specimens that have come under my observation I never saw after seven or eight o'clock in the morning, and again about five o'clock in the afternoon until dark; in the intermediate time I have never seen it. When once this bird is found eating at one place it is almost sure to be found there at the same hour for several days in succession, so that once failing to obtain it, all that is necessary is to wait for it the next day. It feeds on the *Masapan* and *Tobaco* flowers, I think preferring the latter.

This bird is found also at the Barrancas de Jico (or Precipices of Jico) about twenty miles from Jalapa; there it builds its nest, which I have seen. It is very small, round, and flat on the bottom, neither so deep nor so thick on the lower part as the generality of other Humming Birds. The eggs are two, rather long in proportion to their diameter. The nest is covered on the outside with moss from stones, and lined inside with *tule* or cattail silky floss.

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In this bird the upper part of the head, the wing coverts, tail coverts, and the upper part of the body are bright yellowish green bronze, except on the top of the head, which is rather duller. The throat is beautiful metallic shining amethyst color. The breast forming a kind of band across and communicating in a faint line on each side of the neck with the corner of the eye, is white, slightly tinged with chestnut. The flanks, legs and lower part of the belly are of the same color. The sides of the body under the wings are mixed, scale-like, with bronze, green and chestnut color. The quills are purplish gray black, the tail bright purplish black, the second and third feathers having edges of light chestnut, not reaching to the point, and giving them the appearance of being spatulate in form. The tail is composed of six feathers, two on each side about the same length, and the third about one-third shorter. The feet, nails, and bill are black. The bill is considerably curved. Total length $3\frac{1}{2}$ inches, wing $1\frac{1}{2}$, tail $1\frac{1}{2}$, bill $\frac{1}{4}$.

The female is like the male in the color of the upper parts of the body. The throat and breast and abdomen are grayish white, tinged with chestnut, very pale on the last, sides under the wings light chestnut, mixed with bronze green towards the breast. The tail feathers are ten, light chestnut in their half towards the body, and the terminal half black, with the first and second widely tipped with white, and the third slightly. The middle feathers are bronze green. The female is about one-eighth of an inch shorter than the male.

Catalogue of the Colubridæ in the Museum of the Academy of Natural Sciences of Philadelphia. Part 3.

BY E. D. COPE.

PSAMMOPHIDINÆ.

MALPOLON Fitz. Type *M. lacertinus*.

Neue Classif. pp. 29, 59, 1826. *Cœlopeltis* Fitz., 1843, Dum. & Bibr. Günther nec Wagler, 1820; *Rhabdodon* Fleischm., 1831; "*Bothriophis* Eichw.," Gthr.; *Taphrometopon* Brandt, 1839.

162. *M. lacertinus* Fitz. "*Coluber monspessulanus* Hermann," also "Merrem," (1804 & 1820), Bonap., (descriptions not recognizable). Hence *Cœlopeltis monspessulana* Bp. Fauna Italica, 1832; *Natrix lacertina* Wagl. in Spix, Serp. Bras., 1824 Fig.; *Psammophis lacertina* Boie, Isis, 1827; Schlegel, Ess. *Cœlopeltis lacertina* Wagl. Natur. Syst., 1830; Günther, Cat. Brit. Mus., 1858; *Col. insignitus* Geoff. St. Hilaire, Hist. Egypt, 1827 Fig.; *Cœlopeltis insignitus* Dum. Bibr. Erp. Gen. vii. 1130, 1854; "*Taphrometopon lineolatus*, Brandt," Karelina, Rev. Mag. de Zoologie, 1840," Dum. Bibr. *Rhabdodon fuscus* Fleischm. 1831.

Three sp. Italy, Dr. Wilson, (Bp. Coll.)

Var. *Neumayeri* Bp.

One sp. Algiers,

Two sp. Italy,

" "

" "

PSAMMOPHIS Fitz. Type *P. crucifer*.

Neue Class. Rept. 29, 59, June 1826. (nec H. Boie Bull. de Sci. Nat. et Geol. Ferussac, Oct. 1826, which must be regarded as a synonyme of *Coronella* Laur.!) F. Boie, Isis 1827, 521, et auctorum. *Macrosoma* Leach, in Bowditch's Ashantee, 1819, (nec Hübner, Lepidoptera, 1816.)

163. *P. crucifer* Fitz. l. c. Boie l. c., Dum. Bibr. Erp. Gen. 1854. *Coluber crucifer* Merr. Beiträge, 1821, fig. ? *Col. lurus* Klein, Tent. 1775; founded on Seba, 53, f. 2.

One spec.

Cape Good Hope,

Gard. Plants in ex

1860.]

164. *P. sibilans* Fitz. l. c. Günther Cat. Brit. Mus. 1858. *Coluber sibilans* Linn., 1766. *Col. moniliger* Daud., 1802. *Psammophis moniliger* Boie, 1826. Wagler, Schleg., Dum. Bibr.
One sp. Africa, ?

165. *P. Phillipsii* Hallow, Proc. Acad. Nat. Sci., 1854, p. 100; do. 1857, p. 69. *Coluber Phillipsii* Hallow, l. c. ii. 1844, 169.

This species has three very narrow longitudinal light bands, which correspond in position with the vertebral, and light inferior borders of the dark lateral bands of the *P. sibilans*. These are not alluded to in any of Dr. Hallowell's descriptions. This species appears to us to be closely allied to the *sibilans*, but has more the aspect of a tree snake, in the narrow, obliquely arranged scales, and rather larger eye.

One sp. Liberia, Dr. Goheen.
One sp. (young, Proc. 1857, p. 69,) " "

TRAGOPS Wagler. Type *T. prasinus*.

Nat. Syst. Amphib. 1830, 184.

We have placed this genus and *Passerita* with *Psammophis*, on account of the similarity of dentition, and from the fact that the *T. tropidococcyx* (*Dryiophis* Gthr.) "possesses the habit and physiognomy" of that genus, according to Dr. Günther, who has made known the species.

166. *T. prasinus* Dum. Bibr. *Dryiophis prasinus* Reinwt. *Dryinus nasutus*, Bell. *Tragops nasutus* Wagler.

One sp. Java, Dr. Ruschenberger.
One sp. Anger, "
One sp. Ceylon, Mr. Cuming in ex.
One sp. India, Dr. Burrough.

Var. *laetus nobis*. Anal shield entire. Colors much brighter and yellower than other specimens; otherwise similar.

One sp. Philippines, Mr. Cuming in ex.

PASSERITA Gray. Type *P. mycterizans*.

Ann. Philos. 1825, 208. *Dryinus* Merrem, 1820, nec Fabricius. Dum. Bibr. 1854, vii. 808. *Dryiophis* "Dalman," Boie Isis, 1827, nec Fitzinger. Neue Class, 1825. (Quid "*Dryiophis* Dahlman" Boie in Ferussac, Bull. de Sc. Nat. et Geol., Oct. 1826?) *Herpetotragus* Fitz., 1843.

167. *P. mycterizans* Gray. *Col. mycterizans* Linn. *Dryiophis nasutus* Merr. et auctorum.

One sp. Madras, Mr. F. Brown.
One sp. India, Dr. Burrough.
One sp. Ceylon, Cuming ex.

We would direct the attention of herpetologists who have large suits of specimens of this species at their command, to the variations in the relative lengths of the tail and body. In our specimens from Madras and Ceylon, the length of the former is to that of the latter, about as one to two; in the specimen presented by Dr. Burrough, as one and one-third to two. In the latter, the lateral and superior surfaces of the proboscis are verrucose, and the body is more slender in proportion to its length.

168. *P. fusca*. *Dryinus fuscus* Dum. Bibr. Erp. Gen. vii. p. 812. *Passerita mycterizans*, var. *Dryinus fuscus* Gthr. Cat. Brit. Mus. p. 161. *Dryiophis* c. Boie, Isis, 1827, 546; "eine dritte durch Leschenault von Ceylon, der *aenea* ähnlich."

Four specimens of this serpent from Ceylon agree in having a more attenuated form than the *mycterizans*. The tail is to the body, in length, as

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one and one-third to two; the lateral and superior surfaces of the proboscis are verrucose. The head is very much attenuated. A dark brown band passes through the eye, and there is a diamond shaped blotch with a posterior elongation, on the top of the head.

DRYOPHIDINÆ.

LANGAHA Bruguière. Type *L. nasuta*.

Journ. Phys. 132, 1784. *Xiphorhynchus* Wagl., 1830. *Xiphorina* Fitz., 1843.

169. *L. nasuta* Shaw, 1790. *L. Madagascariensis* Latr., 1801. *L. ensifera* Dum. Bibr., 1854. *Dryophis langaha* Schleg., 1837.
One sp. Madagascar, Gard. Plants in ex

DRYOPHIS Fitzinger. Type *D. fulgida*.

Neue Classification, 1826, p. 66—et auctorum. *Oxybelis* Dum. Bibr. 1854.

a. Scales smooth: *Oxybelis* Wagl., 1830.

170. *D. argenteus* Schleg.

One sp. Cayenne, Mr. Amory Edwards.

171. *D. acuminatus* Gthr. *Coluber acuminatus* Wied, 1822. *Dryinus aeneus* Wagl., 1824. *Dryophis auratus* Schleg., 1837.

One sp.	Brazil,	Dr. McMurtrie.
One sp.	Veraguas, New Grenada,	Mr. R. W. Mitchell.
One sp.	Panama,	Drs. Gallaer & Le Conte.
Two sp.	S. America,	Mr. Cuming in ex.
Two sp.	"	?

It is this species of *Dryophis* to which Prof. Baird alludes (Proc. Acad., 1859, 300) as having been obtained so far north as Guayamas, Sonora. A single specimen procured by Capt. Stone at that place is in the Mus. Smithsonian.

172. *D. Kirtlandii* Hallow. Proc. Acad. Nat. Sci. Phil., 1854, p. 100. *Leptophis Kirtlandii* ibid, l. c. 1844, 62. *Oxybelis Kirtlandii* ibid, l. c. 1857, 59. *Ox. Lecontei* Dum. Bibr. vii. 821, 1854.

Two sp.	Liberia,	Dr. Goheen.
One sp.	"	Dr. Savage.
One sp.	"	Mr. E. T. Cresson.
Two sp.	Gibson,	Dr. Ford.
One sp.	"	Mr. Du Chaillu.

b. Scales carinate: *Dryophis*, Fitz. Wagl.

173. *D. fulgidus* Fitz.

One sp.	Surinam,	Dr. Hering.
One sp.	Panama,	Dr. Le Conte.
One sp.	Tsalco, San Salvador,	Capt. J. Dow.

The above specimens have ten upper labial shields. Günther gives nine as the ordinary number.

174. *D. brevirostris nobis*.

Near the middle of the body, scales in fifteen rows; elsewhere in thirteen. Carination very faint anteriorly; visible upon five rows posteriorly. General form extremely slender; length of tail to that of body as two to three. Head small, muzzle short. No loreal, one post, one preocular, the latter reaching the vertical. Nostril near the middle of the nasal plate. Superior labials six, fourth and angle of third entering orbit; last very long. Inferior labials seven, suture of the first pair unusually long. Pupil round. Gastrotoges 179; an entire anal, urosteges, 170. Total length 40 in. 6 l. Tail 16 in. 3 l.

1860.]

Coloration, greyish green, tinged with rufous upon the upper surface of head and body. A narrow black line passing back from the eye, parallel to the commissure of the mouth. No lateral stripe.

Habitat. Veraguas, New Grenada. From a valuable collection made in that place by R. W. Mitchell, Esq.

AHAETULLINÆ.

CHRYSOSPELEA Boie. Type *C. ornata*.

Isis von Oken, 1827, p. 546. *Chironius* Fitz. Isis, 1827, 265, nec Neue Class. 1826.

175. *C. ornata* Boie, l. c. *Coluber ornatus* Shaw, 1803. *Col. ibiboca*, Latr. 1801! *Chironius ibiboca* Fitz. l. c.

Var. A. <i>Gthr.</i>		
One sp.	Philippines,	Mr. Cuming in ex.
Var. B. <i>Gthr.</i>		
One sp.	Siam,	Dr. Ruschenberger.
Two sp.	?	?

176. <i>C. rhodopleurum</i> Boie.	<i>Dendrophis rhodopleuron</i> Reinw.
One sp.	E. Indies. Smiths. Inst.

AHAETULLA Gray. Type *A. picta*.

Annals of Philosophy, 1825, p. 208 (September) ?*Leptophis* Bell, Zoological Journal, 1825, p. 328 (October). Gray, in King's Australia, ii. p. 432, 1827. *Dendrophis*, Fitzinger, Neue Classif. p. 60, 1826 (June). Boie, Ferrusac, Bullet. Sci. Nat. et Geol. 1826, 238 (October). Wagler, Natürlich Syst. p. 183, 1830. Fitzinger, Syst. Rept., 1843, p. 27. Dumeril, Prodrome Général, 56, 1852. Günther, Cat Brit. Mus., 148, 1858.

177. *A. picta nobis*. "*Coluber filiformis* Linn. Mus. Ad. Fried., pl. 17 f. 2." Description and fig. not recognizable. *Col. pictus* Gmel. 1788. *Col. coeruleus*, Bonaterre, 1790. *Col. decorus* Shaw, 1802. *Ahaetulla decora* Gray, 1825. *Dendrophis decorus* Fitz., 1826. *Dendr. picta* Boie, 1826. Wagler, Schlegel, Fitzinger, Dumeril, Günther. ?*Leptophis purpurascens* Bell, 1826. *L. mancas* ibid. *Ahaetulla Bellii* Gray, Ind. Zool., 1834. *Leptophis pictus* Cantor, 1847.

One sp.	near Calcutta,	Dr. R. Coates.
Three sp.	Ceylon	Mr. Cuming in ex.
One sp. "(<i>Ular lidi</i> of the Chinese)"	Singapore,	?
Five sp.	Philippine Is.	Mr. Cuming in ex.
One sp.	Java,	Dr. Ruschenberger
One sp.	?	?

THRASOPS Hallowell. Type *T. flavigularis*.

Proc. Acad. Nat. Sci. Phil., 1857, p. *Dendrophis* Boie, Isis, 1827, p. 520 (nec Fitzinger, 1826). Schlegel Essai, 1837. *Leptophis* Wagler, Nat. Syst. p. 1830. Fitz. Syst. Rept., 1843. Dumeril, Prodrome, 1852 (nec Bell, 1825). *Ahaetulla Gthr.*, Cat. Brit. Mus. p. 151, 1858 (nec Gray, 1825).

In this genus the scales are arranged in subtransverse rows, and are carinate; in *Philothamnus Smith*, they are similarly arranged and smooth; in both genera the gastrosteges are weakly keeled, the urosteges scarcely at all. In *Gastropyxis nobis*, the scales are arranged quincuncially and are keeled; the gastro- and urosteges sharply angulated. In all three the dentition is syncranterian. In *Hapsidophrys Fisch.*, the frontal region is much arched; otherwise nearly similar to *Thrasops*.

178. *T. flavigularis* Hallow. l. c. *Dendrophis flavigularis*, Hallow. l. c. 1852, p. 205. We find no external character in this fine serpent which can, in our

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opinion, justify its separation from the next succeeding species. This is interesting when we recollect that the *Dryophis* of the same region is congeneric with the South American form, and not with that inhabiting the East Indies; a fact pointed out by Dr. Günther, in his paper on the geographical distribution of reptiles.

Two sp. Gaboon, West Afr. Dr. H. A. Ford.

179. *T. ahaetulla nobis*. *Coluber ahaetulla* Linn. *Col. liocercus* Neuw. *Leptophis ahaetulla* Bell. *Dendrophis ahaetulla* Fitz. Boie. *Dendrophis liocercus*, Schleg. *Leptophis liocercus* D. & B. *Ahaetulla liocercus* et *Linnæi* Gray, 1830. Gthr.

Two sp. Surinam, Dr. Colhoun.
One sp. Brazil, ?
One sp. loc. ignot. ?

180. *T. Mexicanus nobis*. *Leptophis Mexicanus* D. & B. *Ahaetulla Mexicana* Günther.

One sp. Omoa, Honduras, Dr. J. L. Le Conte.
Two sp. loc. ignot. Mr. Cuming in ex.

181. *T. occidentalis nobis*. *Ahaetulla occidentalis*, Günther, Proc. Zool. Soc., 1859, p.

One sp. Isth. Panama, Dr. J. L. Le Conte.
One sp. ? Mr. Cuming in ex.

?Var. In a third specimen, locality unknown, an additional superior labial shield, and a postnasal longer than high, are the indices of greater elongation of the prefrontal, nasal and intermaxillary bones. In every other respect similar to the above. The proportions of body and color prevent its reference to *T. ahaetulla*. We await additional specimens before forming an opinion respecting it.

PHILOTHAMNUS Smith. Type *P. semivariatus*.

Zool. South Africa, pl. 59, 1849.

182. *P. natalensis* Smith l. c. pl. 64.

We are not convinced of the identity of this species with *P. Chenonii* (*Leptophis Chenonii* D. & B.) Dr. Leach's diagnosis of his *Coluber irregularis* in the appendix to Bowditch's Ashantee, will probably apply equally well to several species; hence, we cannot adopt his name without more evidence than has been offered.

One sp. Africa. Mr. Cuming, in ex.

In this specimen the tail is rather longer in proportion to the body, than Dr. Smith describes. The length of the former is thirteen inches; of the latter, nineteen.

183. *P. depressirostris nobis*.

Scales smooth, in fifteen rows, arranged as in *T. Mexicanus*, more obliquely than in *T. occidentalis*. Length of tail to total length, as one and one-third to three. Muzzle elongate, depressed, truncate; rostral plate twice as broad as high. Postnasal longer than prenasal; loreal three times as long as high. One pre-, two postoculars. Nine superior labials, fifth and sixth entering the orbit. Eye very large, oval. Occipitals broad anteriorly, narrow and truncate posteriorly, about equal to the vertical in length. Dentition as in *T. ahaetulla*. Anal plate divided. Total length 45 in. 6 l.

Coloration. Above uniform deep green; beneath and upon the lips light green. An inconspicuous temple streak. A very delicate black line traverses the centre of each of the two rows of scales that bound the vertebral row, extending from the nape to the origin of the tail.

Habitat. Cocuyas de Veraguas, New Granada; one specimen, presented to the Academy by Mr. R. W. Mitchell.

1860.]

This species bears considerable resemblance to *T. occidentalis*, but is distinguished by prominent characters.

In the animal which is the subject of this description, an entozoon (*Pentastomum gracile*) had entered the right internal nostril, and penetrating the membranes of the meatus near its anterior orifice, had attached itself to the periosteum in the right posterior sinus of the intermaxillary bone. The body of the animal entirely filled the meatus, and extended as far as the mouth of the oesophagus of the serpent.

GASTROPYXIS nobis. Type *G. smaragdina*.

Supra p. 556.

184. *G. smaragdina nobis*. *Dendrophis smaragdinus* Boie, 1827. Schlegel, 1837. *Leptophis gracilis* Hallow., 1844. *Leptophis smaragdinus* Dum. & Bibr., 1854. *Ahaetulla smaragdina* Gthr., 1858.

Four sp. Gaboon, W. Africa.

One sp. Guinea.

One sp. Liberia.

One sp. ?

Dr. Ford.

Mr. Du Chaillu.

Dr. Goheen.

?

COLUBRINÆ.

PRYMNOMIODON nobis. Type *P. chalceus*.

Form slender, head moderately distinct. Cephalic plates normal: two nasals, a loreal, one preocular. Scales carinate, arranged quincunially, those of the vertebral series not larger. Gastro- and urosteges not angulated; the latter divided, the postabdominal plate entire. Pupil round. Palatine teeth very little longer than pterygoids. Superior maxillary teeth minute posteriorly, becoming much longer anteriorly; none grooved.

In the system of the *Erpetologie Générale*, this genus might be placed near *Eugnathus D. & B.* Its true affinities are not with *Euprotodon* and *Lycophidium*, but with *Thrasops Hallow.*, and *Thamnophis Fitz. (Eutania B. & G.)*, being distinguished from the latter principally by the dentition.

185. *P. chalceus nobis*.

Similar in appearance to *Thamnophis proximus nobis*. Muzzle rather narrow; rostral plate nearly as high as broad. Vertical rather large, its lateral borders converging, presenting a right angle posteriorly. Nasals equal in size. Loreal trapezoid, posterior inferior angle acute. Preocular not reaching vertical. Three postoculars. Eight superior labials, eye resting on fourth and fifth. Nine or ten inferior labials; post-geneials separated, longer than the anterior. Scales in nineteen longitudinal rows, elongate, emarginate at the tip, those of the external row not larger than the others, keeled. Gastrosteges 152; urosteges? (tail mutilated). Length of body 11 in. 8 l.

Coloration. Olivaceous above, shading into leek green upon the flanks, and greenish-white upon the belly. A vertebral band of light green bordered with black extends from the occipital plates to the origin of the tail, involving one and two halves rows of scales. Another narrower and paler band extends upon the third and fourth rows of scales upon each side from the neck to origin of tail. This band is bounded above by an interrupted narrow black border. Temporal region lively green, plates of head and muzzle tinged with fulvous. Upper labials and preocular white; a narrow black postocular vitta. All the plates and scales above and below, refulgent with a brilliant metallic lustre, as in *Ahaetulla* sp.

One sp.

Siam.

Dr. W. S. W. Ruschenberger.

PHILODRYAS Wagler. Type *P. Olfersii*.

Nat. Syst. Amphib. 185, 1830. *Chlorosoma* Ib. l. c. *Dryophylax* Dum. & Bibr. Erp. Gen. vii. 1103, 1854, nec Wagler, 1820.

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As Wagler's name, *Chlorosoma*, as applied to this genus, is etymologically untrue, we have followed Dr. Günther in employing the name which immediately succeeds it in the "Natürliches Syst."

186. *P. Olfersii* Wagl. l. c. *Herpetodryas Olfersii* Schl. *Dryophylax Olfersii* D. & B. One sp. Brazil. ?

187. *P. viridissimus* Günther. *Chlorosoma viridissimum* Wagl. l. c. *Herpetodryas viridissimus* Schl. *Dryophylax viridissimus* Dum. & Bibr.

One sp. Surinam. Dr. Colhoun.
One sp. Patr. ignot. ?

188. *P. crassifrons* nobis.

Expression slightly homalopsine: the eyes more anterior and vertical, the muzzle shorter, and the labials higher than is usual among tree-snakes. Vertical plate nearly as broad as long; occipitals broad, rounded. Postoculars two; preocular not reaching the vertical. Postfrontals broad transversely, inferiorly bordered by the postnasals and third upper labial, suture with the former longer. Superior outline of the rostral rounded. Nostril a slit; nasals confluent, posterior inferior angle acute. Loreal none. Superior labials eight, all higher than long, except the first and last; eye over the fourth and fifth, small. One large and three small temporals bound the external border of each occipital. Inferior labials ten or eleven, sixth largest, last two or three very small. Pre-geneials longer than the posterior pair. Scales in nineteen longitudinal rows, smooth; gastrosteges undulate near their extremities, obtusely keeled. Gastrosteges 206, one divided anal, urosteges 123.

Coloration. Above uniform dark green, beneath greenish-white, chin tinged with yellowish.

One sp. Cayenne. Gard. of Plants. (as *Dryophylax viridissimus*)

In the proportions of the body, this serpent much resembles the *P. viridissimus*, but even assuming that the absence of the loreal shield is accidental, the proportions of the head and plates are different from those seen in our specimens of that species, and in the published figures of it.

GONYOSOMA Wagler. Type *G. oxycephalum*.

Nat. Syst. Amphib. p. 184, 1830.

189. *G. oxycephalum* Wagler. *G. viridedo*. Descr. et Icon. Amphib. pl. 9.

One sp. Java. Dr. W. S. W. Ruschenberger.

This specimen has 27 and 28 rows of scales upon the anterior part of the body.

CHLOROPHIS Hallow. Type *C. heterodermus*.

Proc. Acad. Nat. Sci. Phila. 1857, p. 61.

Body cylindrical, tail not long; head rather short, eyes large. Scales smooth, anteriorly in oblique transverse series. Nasals two, nostrils between; loreal large; one pre-, two postoculars. Gastrosteges faintly angular; anal plate entire, urosteges divided. Dentition syncranterian.

We are inclined to regard the arrangement of the plates upon the muzzle of the specimen from which Dr. Hallowell drew up his diagnosis, as abnormal. Another specimen from Guinea exhibits the plates as described. This genus seems to differ from *Hapsidophrys* Fisch., in having a shorter tail, as well as smooth scales.

190. *C. heterodermus* Hallow. l. c.

One sp. Gaboon. Dr. A. H. Ford.
One sp. Guinea. P. B. Du Chaillu.

LIOPELTIS Fitz. Type *L. tricolor*.

Systema Reptilium, 1848, p. 26.

This genus differs from *Chlorophis* in having a single nasal plate, more 1860.]

depressed head, equal teeth, and bifid anal plate. It seems to include *Herpetodryas tricolor* Schleg., *Cyclophis calamaria* Gthr., *Cyclophis major* Gthr., and the species below-mentioned. The scales are not keeled and the general form is less elongate than in *Opheodrys Fitz.*

191. *L. vernalis nobis.* *Coluber vernalis* DeKay, Holbrook, etc. *Herpetodryas vernalis* Hallow., Proc. A. N. S. 1856, p. 243. *Chlorosoma vernalis* Bd. & Grd. *Cyclophis vernalis* Gthr.

Two sp.	Nebraska.	Dr. Hammond.
Two sp.	Kansas	"
One sp.	Michigan.	Dr. Miles.
One sp.	Allegheny Co. Penna.	Mr. Trout,
One sp.	Berks Co. Penna.	? ?
Two sp.	Morris Co. N. J.	Dr. J. C. Fisher.
One sp.	New Jersey.	Mr. C. C. Abbott.
One sp.	Rhode Island.	Mr. S. Powel.
One sp.	Massachusetts.	Dr. Holbrook.
Three sp.	?	?

The most frequent anomaly in the arrangement of the plates of the head of this species is the union of the nasal and loreal. Two labials are sometimes confluent and the preocular is occasionally divided.

OPHEODRYS Fitz.

Syst. Rept. 1843, p. 26. *Cyclophis* Gthr. Cat. Col. Brit. Mus. 1858, p. 119.

192. *O. æstivus* Fitz. *Coluber æstivus* Linn. *Herpetodryas æstivus* Schleg., Dum. & Bibr., Hallow. *Leptophis æstivus* Bell., Eolbr., Bd. & Grd. *Cyclophis æstivus* Gthr.

One sp.	"Massachusetts."	Smiths. Inst.
One sp.	New Jersey.	Mr. Ashmead.
One sp.	Pennsylvania.	Mr. Allison.
One sp.	Washington, D. C.	Mr. Burt.
One sp.	South Carolina.	Dr. Holbrook.
One sp.	Texas.	Dr. Woodhouse.
One sp.	"	Dr. Heermann.
One sp.	?	Dr. Wilson (Bp. Col.)
Five sp.	?	?

DROMICUS Bibron. Type *D. fugitivus*.

Sagra's Hist. d'Ile Cuba, 1840, p. 221.

193. *D. fugitivus* Gthr. *Col. fugitivus* Donnd. *C. cursor* Shaw. *Herpetodryas cursor* Schleg. *Dromicus cursor* Bibr.

Var. Gthr.	One sp.	Trinidad.	Dr. S. W. Mitchell.
	One sp.	?	?
?? Var.	One sp.	Martinique.	Gard. Plants, in ex.

194. *D. ater* Gthr. *Natrix atra* Gosse.

One sp.	Jamaica.	Dr. Fisher.
Four sp.	?	?

195. *D. antillensis* Dum. & Bibr. *Psammophis antillensis* Schl.

One sp.	St. Thomas.	Mr. Robt. Swift.
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DRYMOBIUS Fitz. Type *D. margaritiferus*.

Syst. Rept. 1842, p. 26.

a. One preocular plate.

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196. *D. margaritiferus* Fitz. *Herpetodryas margaritiferus* Schl. *Leptophis margaritiferus* Dum. & Bibr. *Zamenis tricolor* Hallow. *Dromicus* (?) *margaritiferus* Gthr.

One sp.	Omoa, Honduras.	Dr. Le Conte.
One "	Honduras.	Dr. Woodhouse.
One "	Panama.	Dr. Le Conte.
Three "	Central America.	Mr. Cuming, in ex.

197. *D. Boddærtii nobis*. *Coluber Boddærtii* Steetzen, 1795. *Col. fuscus* Hallow. Proc. A. N. S. Phila. 1845, II. p. 241, nec Linn. *Herpetodryas Boddærtii* Schleg., Dum. & Bibr., Gthr.

Unicolor var.	Two sp.	Surinam.	Mr. Wood.
	Two "	Caraccas.	Mr. Ashmead.
	One "	?	Mr. Cuming, ex.
	One "	Veragua, N. Grenada.	Mr. R. W. Mitchell.
Banded var.	One "	Caraccas.	Mr. A. B. Durand.
	One "	?	Mr. Cuming, ex.

In the banded variety a light band runs along the fourth row of scales. In our second specimen the light color of the abdomen involves the first two rows, leaving a narrow brown band upon the third row, below the light one.

198. *D. Rappii nobis*. *Herpetodryas Rappii* Gthr., Catal. Snakes Brit. Mus. 1858, p. 116.

One sp.	Caraccas.	Mr. Ashmead.
Two "	?	?

b. Preoculars two, scales keeled. *Dendrophidium* Fitz.

199. *D. dendrophis nobis*. *Herpetodryas dendrophis* Schleg., Gthr. *H. Poitei* Dum. & Bibr.

One sp.	S. America.	?
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c. Preoculars two, scales smooth. *Masticophis* Bd. & Grd.

200. *D. flagelliformis nobis*. *Herpetodryas psammophis* Schl. *H. flagelliformis* Dum. & Bibr., Gthr. *Psammophis flagelliformis* Holbr. *Masticophis flagelliformis* Bd. & Grd.

One sp.	Georgia.	?
One sp. Young.	S. Carolina.	Dr. Blanding, ("Coluber reticularis.")

201. *D. testaceus nobis*. *Coluber testaceus* Say, 1853. *Psammophis flavigularis* Hallow., 1852. *Masticophis flavigularis et testaceus* Bd. & Grd., 1853. *Herpetodryas flavigularis* Hallow. et Gthr. (Quid *Coryphodon testaceus*? Gthr.)

Three sp.	Texas.	Dr. Heermann.
Two sp.	Cross-Timbers, Ind. Ter'y.	Dr. Woodhouse.
One sp.	Cape St. Lucas, Lower Cal.	Smithsonian Inst.

In one of the specimens from Texas, the anterior part of the tail, and part of the body are lustrous black; in all three the teeth are of a light sea-green color, at their bases. In the specimen from Cape St. Lucas, the head is deep brown; a light line extends anterior to the eye, and one along the median upper labials, which sends a vertical branch to the postoculars. Throat and chin brown with yellow variations, anterior part of the body crossed for a short distance by incomplete cross bands. (Vid. Hallowell, U. S. Pac. R. R. Surv. Rept. x. Williamson's Exp. Reptiles, p. 12.)

202. *D. tæniatus nobis*. *Leptophis tæniata* Hallow. Proc. Ac. Nat. Sci. Phil. 1852, p. 181. *Masticophis tæniatus* B. & G. Cat. Serp. 1853, 108. *Leptophis lateralis* Hallow. Proc. Acad. 1853, p. *Masticophis Schottii* B. & G. Cat. Serp. 1853, p. 160.

The fundamental pattern of coloration in this species consists in a unicolor 1860.]

dorsal region, and lineated sides, a dark line running through the centre of each row of scales upon the latter region and upon the ends of the gastrosteges. The intervals between these lines may be variously shaded. When a light color appears between each, we have the form *taniatus*. (U. S. Pac. R. R. Expl. Rept. x. Beckwith's Rept. Pl. xxiii.) When the intervals involving the ends of the gastrosteges, the first, second and half the third rows of scales, are dark, half the third and fourth being bright yellow, we have *lateralis* or *Schottii*. (Mex. Bound. Surv. pl. 17.) Sometimes only the interval between the lines of the second and third rows is dark; sometimes this occurs, the inferior half of the first row being also shaded. The uniform olive brown of the back is formed by the confluence of the widened longitudinal bands; the exterior basal portions of the dorsal scales, are however sometimes yellow, like the ground upon the sides.

One sp.

California.

Dr. Heermann.

One sp.

Arizona.

Smiths. Inst.

HERPETODRYAS Boie. Type *H. carinatus*.

Bullet. de Sci. Nat. et Geol. Octob., 1826, p. 237. *Macrops* Wagl. Nat. Syst. Amphib. 1830, p.

203. *H. carinatus* (Boie) Schlegel. Herpetologists have distinguished two species as confounded in the *H. carinatus* of Schlegel's *Essai*, and have characterized them as possessing, the one, smooth scales, the other, carinate. After a careful study of our specimens, we have arrived at the conclusion that there is no ground for regarding one series of specimens possessing carinæ upon the scales, as representing a species distinct from another series, whose scales are keelless. Specimens in which two or three labials enter the orbit and which have the anal divided, differ in this respect, as do also those with an entire anal plate, and three or two upper labials entering the orbit. A specimen from near Rio Janeiro is obviously *Natrix scurrula* of Wagler, (Spix, Serp. Braz. pl.) Another specimen from Surinam is quite as slender as *Ahaetulla picta*. In color, specimens vary from black olivaceous with a yellow dorsal line, and spots upon the first row of scales upon the tail, to gray brown with oblique transverse bands. A specimen received from the Garden of Plants, exhibits two preoculars, and three or four postoculars. That a careful anatomical investigation may demonstrate the existence of several species among these individuals, is not improbable.

Besides the synonymes ordinarily quoted under the "species" *fuscus* and *carinatus*, there may be added, *Coluber Spixii* Hallowell, Proc. Phil. Acad. ii. p. 241, and *C. Pickeringii* Hallow. l. c. p. 242.

Ten sp.

Surinam.

Dr. Hering.

Three sp. (Types Hallow. sp.)

Near Caraccas.

Mr. Ashmead.

One sp. (" *Dendrophis viridis* D. B.")

Para.

Col. Abert.

One sp.

Surinam.

Dr. Colhoun.

One sp.

Rio Janeiro.

?

One sp.

?

Gard. Plants in ex.

Three sp.

?

?

204. *H. sebastus nobis*.

As a representative of its genus, this species is of a very elongate and compressed form, with the scales arranged in transverse series, and with two medial dorsal rows, larger than the others; the dentition isodont.

The specific characters are as follows: tail one-third the total length. Scales large, in ten longitudinal rows, entirely smooth. Anal shield entire. Head distinct from the neck, lanceolate. Eye large, superciliaries prominent. Upper head shields large. Vertical elongate, broad anteriorly, lateral borders concave, convergent. Post-frontals bent upon the sides. Rostral as high as broad. Nostril between two nasals, each of the latter higher than broad. Loreal rectangular, longer than high. One preocular scarcely reaching the vertical. Postoculars two, inferior largest; the two bounded posteriorly by the

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occipital and a large temporal plate. As second large temporal, separating the last upper labial from the occipital. Superior labials nine, fourth, fifth and sixth entering the orbit; seventh subtrigonal, last two elongate. Inferior labials ten; post-genials longer than anterior. Gastrosteges not angulated, 153 in number.

Coloration.—A light brownish fulvous, paler on the belly, darker upon the occipital region.

One specimen, native country unknown, but may perhaps prove to be from Eastern Asia or Malaysia.

Zaocys nobis. Type *Z. dhumnades*.

Form slender, vertebral line angular. Two medial series of dorsal scales; those of the sides quincuncially arranged. Two nasals, one loreal, two preocular shields.

The large isodont serpents which have the median dorsal line elevated into a ridge, and the sides compressed more or less "*en toit*" appear to us to be naturally distinguished as follows:

A. Two median dorsal series of scales.

Herpetodryas. Scales in more or less transverse series, one preocular.

Zaocys. Scales in quincunx; two preoculars.

B. One median dorsal series of scales.

a. Loreals more than one.

Ptyas.

Preoculars two or more.

b. Not more than one loreal or preocular

Spilotes. Scales in sub-transverse series; head very distinct from neck; loreal trapezoidal.

Cœlognathus. Scales quincuncial; head but little distinct; loreal trapezoidal.

Gonyosoma. Loreal three times as long as high or absent; muzzle very acute.

In proposing the name *Zaocys* for the *Coryphodontes carinatus* and *fuscus* of Günther, and in retaining Fitzinger's name *Ptyas* for the *C. Blumenbachii* and *C. korros* of the *Erpetologie General*, we are giving expression to an opinion long held by us, as to the unnatural association of species in the so-called genus *Coryphodon*, of those authors. In it we find cylindrical terrestrial serpents united with compressed subarboricole species, upon a peculiarity whose value as an index of nature appears to us entirely imaginary. The very nature of the *coryphodontian* type of dentition as distinguished from the *isodontian* and *syncranterian* would lead us to infer its inconstancy; and it does exist, we believe, in species claimed to be isodont; e. g. in the genera *Lampropeltis*, *Drymobius*, etc.

205. *Z. dhumnades nobis*. *Coluber dhumnades* Cantor, 1842. "*C. nigromarginatus* Blyth, 1855." *Coryphodon carinatus* Gthr., 1858.

Three sp.

Ningpo, China.

Dr. McCartee.

Besides the species of this genus, and of *Herpetodryas*, *Dendrophis pseudodipsas* of Bianconi, from Mosambique, possesses two medial dorsal series of scales.

PTYAS Fitz. Type *P. mucosus*.

Systema Reptilium, p. 26, 1843.

206. *P. mucosus nobis*. *Coluber mucosus* Linn. *Col. Blumenbachii* Merrem. *Coryphodon Blumenbachii* Dum. & Bibr. *Ptyas Blumenbachii* Fitz.

One sp.

East Indies,

Mr. Yarrow.

207. *P. korros nobis*. *Coluber korros* Reinwt., Schleg. *Coryphodon korros* Dum. & Bibr. *Coluber cancellatus* Oppel.

One sp. (80 in.)

Siam,

Dr. Ruschenberger.

One sp.

?

?

1860.]

SPILOTES Wagler. Type *S. pullatus*.

Natur. Syst. Amphib. p. 179, 1830. *Drymarchon* et *Thamnobius* Fitz., 1843. *Georgia* Baird and Girard, 1853.

208. *S. pullatus* Wagl. *Coluber pullatus* Linn. *Col. variabilis* Neuwied. *Spilotes variabilis* Dum. & Bibr.

One sp.	Brazil,	Dr. Strain.
One sp.	Surinam,	Mr. Keller.
One sp.	S. America,	Mr. Cuming in ex.
Two sp.	"	?

209. *S. poecilostoma* Dum. & Bibr. *Coluber poecilostoma* Neuw.
One sp. S. America, ?

210. ?*S. poecilonotus* Gthr.

One sp. Caraccas, Mr. W. G. Boulton.

Our specimen differs from Günther's type, in having the carination of the dorsal scales quite weak, the lateral borders of the vertical plate but little concave, the last two upper labials confluent on both sides, and nearly all the scales on the anterior half of the body with yellow centres.

211. *S. melanurus* Dum. & Bibr.

One sp.	Panama,	Drs. Gallaer & Le Conte.
One sp.	Caraccas,	Mr. Ashmead.

This species is certainly very nearly allied to the *S. corais*, but we cannot at present agree with Günther in regarding it as the young of that species. The *corais* is stouter in form, and does not probably exhibit a black tail, and black lines upon the neck, at any age.

212. *S. corais* Dum. & Bibr. *Coluber corais* Cuvier.

One sp. (very large)	Surinam,	Dr. Hering.
One sp. (half grown)	"	"
One sp. (very young)	"	Dr. Colhoun.

In the young specimen there are forty-one pairs of oblique dark grey cross-bands on the body above.

213. *S. erebennus nobis*. *Coluber obsoletus* Holbrook, not Say. *Georgia obsoleta* Bd. & Grd.

Independently of color, this species differs from the *corais* in the shorter loreal, longer inferior postocular, and longer external *longitudinal* border of occipital plate. The fifth and seventh superior labials are entirely separated by the sixth.

One sp.	Eagle Pass, Texas,	Smithsonian Inst.
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214. *S. Couperi nobis*. *Coluber Couperi* Holbrook. *Georgia Couperi* Bd. & Gird.

In this noble species there is one superior labial less than in *S. corais*: the fifth and seventh labial plates form a suture above the sixth, as in that serpent.

One sp.	Georgia,	Dr. Holbrook.
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COELOGNATHUS Fitzinger. Type *C. radiata*.

Syst. Rept. p. 26, 1843. *Composoma* Dumeril, Prodrome de la Class. Ophid. p. 57, 1853. *Spilotes* Günther, 1858, nec Wagler, 1830.

Coluber reticularis Cantor and *Spilotes Hodgsonii* Gthr. belong to this genus.

215. *C. melanura*. *Coluber melanurus* Schl. *Composoma melanurum* Dum. *Spilotes melanurus* Gthr.

One sp.	Java,	Gard. Plants, Paris, in ex.
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This specimen agrees exactly with Herr Schlegel's description, though sent with the label "*C. radiatum*, Var. B, D. & B."

216. *C. limicolor nobis*.

CYNORHIS Gray. Type *C. helena*.

Ann. Mag. Nat. Hist., p. 246. *Plagiodon* Dum. Erp. Gen. vii. p. 169, 1854.

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217. *C. helena* Günther. *Coluber helena* Daud., 1802. *Cynophis bistrigatus* Gray, l. c., 1849.

Our single specimen differs slightly from descriptions in the arrangement of the colors upon the upper surface of the body. Hence we append the following notes.

Scales small, entirely smooth, in twenty-seven longitudinal series. Tail two-ninths the entire length. Head slightly distinct, acute. Rostral plate rather prominent, as high as broad, visible from above. Two small supplemental plates between it and the prefrontals: the latter as long as broad. Postfrontals longer than broad; superciliaries narrow; vertical rather broad anteriorly, elongate, the lateral borders straight, and so convergent as to render it almost trilateral. Occipitals elongate truncate posteriorly, two elongate temporals bound the external border. Nasals two, large, nostrils between; loreal longer than high, the posterior border curved oblique. Preocular large, reaching the vertical, rugulose; postoculars two. Superior labials ten, eye resting on the fifth, sixth and seventh; eighth longer than high, ninth higher than long, both bounded above by an elongate temporal. Inferior labials twelve, seventh largest; pregenaeals longer than postgenaeals. Postabdominal scute entire. Gastrosteges 223, a little recurved upon the sides; urosteges 88 pair. Total length, 29 in. 3 l., of tail 6 in. 6 l.

Coloration. Under surface light yellow, with a few black specks upon the extremities of the scales anteriorly. Above a delicate fawn brown, the two inferior rows of scales paler. Anterior to the middle of the body, the scales of the rows between the third and tenth assume a darker shade; this becomes a distinct lateral band posteriorly, and extends to the extremity of the tail. On the anterior third of the body, the skin, upon being stretched, exhibits the following pattern. Pale trigonal areas, alternating and extending from the median line to the ninth row of scales upon each side. A series of small light spots upon the eighth row alternates with these. Lower down, opposite to the first, are diamond shaped pale areas, and a second row of larger alternating spots upon the second, third and fourth rows of scales. The spots of this and of the upper series become larger anteriorly, and are bordered above and below with black; the pale areas become obsolete. There are two parallel black lines upon the neck; one oblique, upon each side of the neck; one extending from the eye to the mouth, upon the upper border of the eighth superior labial, and an obscure one upon the common suture of the occipitals.

One sp.

Ceylon,

Mr. Cuming in ex.

ELAPHE Fitzinger. Type *E. sauromates*.

In Wagler's *Icones Amphibiorum*, 1833, pl. 27. *Syst. Rept.*, 1843, p. 26. *Elaphis* Gthr. *Catal.*, 1858, p. 92, nec Dum. & Bibr., 1854.

218. *E. quateradiatus*. *Tropidonotus elaphis* Wagl. *Natrix elaphis* Bonap. *Elaphis quateradiatus* Dum. & Bib.

Six sp.

Italy,

Dr. Wilson. (Bp. Coll.)

219. *E. tæniurus nobis*.

As in many other serpents of Eastern Asia, the maxillary and mandibular teeth become gradually longer anteriorly. Head slightly distinct, lanceolate, muzzle obtuse. Tail one-fifth the total length, flat beneath. Twenty-five rows of scales, those from the ninth to the sixteenth keeled. Rostral plate broader than high, the labial suture one-third the nasal, less than the prefrontal. Eight superior labials, fourth and fifth bounding the orbit. Seventh much longer than high, bounded above by a long temporal, and by a short one, which also bounds the eighth labial. Postoculars two, superior largest. Preoculars two, as in other species of the genus, the superior very large, its horizontal diameter greater than the length of the loreal. The latter plate much longer than high. Postfrontals large, bent upon the sides. Anterior

border of the vertical shorter than the straight, convergent lateral; posterior angle obtuse. Superciliaries large. Occipitals elongate, external borders convergent, bounded by two long temporals. Inferior labials ten, eleven, or twelve. Gastrosteges 232; one divided anal; urosteges 101 pair. Total length of specimen from Ningpo 64 in., tail 13 in.; specimen from Siam 30 in., tail 6 in., 3 lines.

Coloration. Above, an olivaceous ash, or clay color, more olive anteriorly. A blackish lateral band extends from the tip of the tail, throughout the posterior third of the body, where it extends from the second to the ninth rows of scales, reducing the ground color to a dorsal stripe of three or four scales in width. It is divided by a number of irregular narrow vertical lines, at regular distances. The superior border is prolonged upon the anterior two-thirds of the body as an irregular, narrow, longitudinal black band, connected with that of the opposite side by similar short transverse bands at distances of four or five scales. Irregular black borders and centres of the median lateral scales, are the only indications of the inferior part of the lateral band anteriorly. Gastrosteges tipped with black anteriorly; the central parts become gradually darker posteriorly, but finally give place to a yellow median band which extends to the tip of the tail. This is bounded by a blackish band on each side, which is separated from that of the sides by another yellow one, which involves the tips of the gastrosteges, and first row of scales. The only marking upon the head is a black postocular vitta, which extends along the upper borders of the labials and no farther, parallel to the commissure of the mouth. Pectus, throat, chin and superior labials yellowish.

One sp. Ningpo,
One sp. Siam,

Dr. McCartee.
Dr. J. E. Simple, U. S. N.

We can find no notice of this fine serpent, except a brief description appended to specimen c under *Elaphis virgatus* of the British Museum Catalogue. This specimen, which is from Chikiang, China, most probably belongs to the present species. *Elaphis virgatus* differs from *taeniurus* in its more elevated rostral with more equal borders, its shorter loreal and preocular, etc.

E. bilineatus *Hallowell*, Proc. Acad., 1860, p. 497, from Japan, is nearly allied to, if not a variety of, *E. quadrivirgatus* *Gthr.*

NOTE.—In these Proceedings, 1860, p. 241, we characterized a genus of serpents from West Africa, having entire urosteges, under the name *Pariaspis*. This name we find must give way to *Elapops*, *Gthr.*, of a few months prior date; vid. Ann. Mag. Nat. Hist. 1859, 151. *E. modestus* *Gthr.*, appears to differ from *E. plumbeater* in having but one postocular, two temporals bounding the occipital instead of one, and in color. In the latter species there is no shade of olivaceous. The plate represents a rather broader vertical and perhaps a smaller rostral. We look for further specimens to substantiate these differences.

Oxyrhopus melanocrotaphus nobis, l. c., p. 260, is apparently *Crotaphopeltis rufescens* *Fitz.* The latter genus differs from *Sibon* in its entire anal plate.

Phimothyra nobis, l. c., p. 253, is intended to take the place of *Salvadora* Bd. & Grd., the latter name having been previously applied by Linnæus to a genus of plants.

Phyllobates auratus, l. c., p. 372, was erroneously stated to inhabit Chili. It has as yet been found only on the Island of Taboga, Bay of Panama.

We are authorized to state that *Lampropeltis multistriata* *Kennicott*, l. c., p. 328, is a misprint for *L. multistrata* *Kenn.*

Descriptions of some New Species of Tertiary Fossils from Chiriqui, Central America.

BY W. M. GABB.

The following species were collected by Dr. John Evans during his examinations, under the patronage of the U. S. Government, in Chiriqui. I have, as yet, received no definite information in regard to their exact locality or geological position. The material is too scant to form a definite idea in regard to their age, but I believe them to be Miocene. Full information on the subject will be contained in Dr. Evans's report. It is worthy of notice that among a large number of specimens there should be so few species. The matrix is a dark, almost black, highly bituminous shale.

TEREBRA.

T. Evansii. Shell turritid, whorls about eight or nine, angulated above; suture distinct; surface polished and marked by an impressed line about a third of the width of the whorl from the upper edge; below marked by several faint revolving lines. Aperture subquadrate, columella somewhat prolonged, tortuous, and with two faint folds; outer lip sinuous, most prominent near the lower part of the mouth. Rather common.

Dimensions.—Length, 1 inch; width of body-whorl, .5 in.; length of aperture, .4 in.

TELLINA.

T. semilævis. Shell subtriangular, truncate posteriorly, inequilateral; beaks one-third of the distance from the posterior extremity, with a faint angulation extending from them, parallel with the posterior side, to the margin; posterior side nearly straight; posterior angle obtuse; anterior end regularly rounded; surface, in the young state, smooth; in the adults, with the marginal half concentrically striate. Very rare.

Dimensions.—Length, .6 in.; width, .75 in.; thickness, .35 in.

CHIONE.

C. sulcata. Shell ventricose, robust, produced posteriorly; umbones large and round; anterior margin regularly rounded, basal sinuous, posterior nearly straight. Umbonal ridge rounded, with the shell posterior to it at a right angle with the rest of the shell, and with a very distinct depression or sulcus anterior to it. Surface marked by about twenty heavy transverse ribs, crossed by numerous radiating impressed lines. Inner margin crenulate. Rare.

Dimensions.—Length, .6 in.; width, .8 in.; thickness, .6 in.

ARCA.

A. Chiriquiensis. Ventricose, inequilateral, umbones very large; hinge line short, with the teeth very small and at right angles to the hinge. Surface marked by numerous radiating ribs, with the depressions between them of about the same size as the ribs: these are crossed by very distinct lines of growth; and on the ribs are numerous small nodes, which appear to be independent of the lines of growth, and are not merely squamose elevations. These nodes are most prominent on the anterior ribs, and become gradually fainter posteriorly until, posterior to the umbonal ridge, they disappear. Area wide and marked by very few angular lines. This species is exceedingly common, and is sometimes nearly three inches across.

Dimensions of the most perfect specimen.—Length, 1.5 in.; width, 1.6 in.; depth of valve, .8 in.

MEMBRANIPORA.

M. speciosa Gabb and Horn. Colony in small encrusting patches, common. 1860.]

posed of cells arranged in irregular lines; cells large, broadly oval; openings of the same shape as the cells, though smaller, by the projection inwards of the wall of the cell. Between the cells are numerous small interspaces formed by the inaccurate apposition of the cells. In this species we found no ovarian vesicles. The common base of the colony is longitudinally and obliquely striate.

Descriptions of Three New Species of Starfishes from Cape St. Lucas.

BY JOHN XANTUS.

1. *ASTERIAS SERTULIFERA*, Xantus.

With five moderately tapering and somewhat angular arms. Length of each arm about two and a quarter times the diameter of the disk. Ambulacral spines very slender, flattened, linear, mostly in a single row. Exterior to them, on the ventral side, a double or treble row of stouter spines of equal length, also somewhat flattened, with blunt extremities. Back of the arm with five pretty regular rows of cylindrical or moderately-tapering spines nearly as large as those on the belly. The lateral rows are more regular than the others, and the spines of these rows arise from a very regular series of subtriangular ossicles, one spine to every alternate ossicle. These back-spines are all crowned at or near their tips with a thick wreath of minute pedicellariæ. No pedicellariæ in the intervals between the spines. Rarely a large pedicellaria in the ambulacral furrows.

Diameter, four and a half inches.

Related to *A. glacialis*.

Found on rocks at low-water mark.

2. *HELIASTER MICROBRACHIA*, Xantus.

Arms thirty-five in number, each in length forming about one-eighth the entire diameter of the body. Ambulacral pores very small, in four rows. Ambulacral spines stout, blunt, and forming a single row. Lateral spines of the arms compressed, very broad and flat, often bifurcated at their extremities. Dorsal spines very small and numerous, uniformly distributed, scattered without order over the surface of the disk and arms.

Diameter, seven inches.

3. *HELIASTER KUBINIJII*, Xantus.

Arms twenty-two to twenty-four in number, each in length forming rather less than one-third the whole diameter of the body. Ambulacral spines in a single row. Ventral spines compressed at their extremities. Dorsal spines capitate, in four to six series on the back of the arms; on the disk much larger and less numerous, and with flat or even concave tops. Pedicellariæ thickly distributed between the spines.

Diameter, seven inches.

Collected at Cerro Blanco, off Cape St. Lucas.

I take pleasure in dedicating this species to my countryman M. Kubiniji, the accomplished Director of the Hungarian National Museum at Pesth.

Type specimens of all of the above species have been transmitted to the Museum of the Smithsonian Institution.

Descriptions of Two New Species of *Pimelodus*, from Kansas.

BY CHARLES C. ABBOTT.

1 *Pimelodus Hammondii*, Abbott.—*Spec. char.* Body slender, elongated, and much compressed; the dorsal outline anterior to the dorsal fin, and the facial outline, descend obliquely to the margin of the jaws, without curva-

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ture. The head is much depressed, and very broad, constituting somewhat less than one-fifth of the total length. The mouth is small, and has the upper jaw the longer. The maxillar barbles extend a slight distance beyond the branchial aperture. The eye is of medium size, circular; its diameter entering six times in the length of the side of the head; the orbits are nearly four diameters apart. The spine of the dorsal fin is perfectly smooth; and the spine of the pectoral very coarsely serrated. The caudal fin is moderately forked.

The numbers of the fin rays are D, 1-6. P, 1-10. V, 8. A, 24. C, 27-⁵

Color. In alcoholic specimens, the head, back and upper half of the sides are bright sienna; the belly silvery white. Margin of the dorsal, caudal, and anal fins, glossy black; the marking on the anal broader and not so deep. Numerous small, circular black spots are scattered irregularly over the body, in appearance similar to those of the Trout (*S. fontinalis*), except in color.

Habitat. Fort Reilly, Kansas.

This species is named in honor of Dr. Wm. A. Hammond, who has presented the Academy with many new and valuable western fishes.

2. *Pimelodas notatus*, Abbott.—*Spec. char.* The head and body are very much compressed, and the body tapers rapidly to the tail. The peduncle of the tail is slender and increases in width as it approaches the insertion of the fin. The facial outline is very oblique, and with the dorsal outline makes considerable curvature, from the anterior insertion of the dorsal fin to the extremity of the upper jaw. The eyes are large, situated equidistantly between the extremity of the upper jaw and margin of the opercle; the diameter of the orbit is contained four times in the length of the side of the head. The spines of both dorsal and pectoral fins are finally serrated. The anterior insertion of the dorsal fin is equidistant between the insertions of the pectoral and ventral fins. The extremities of the rays of the pectoral extend to the insertion of the ventral fins. The extremities of the rays of the ventral extend beyond the anterior insertion of the anal fin. The anal fin is large; the base equal to one-fourth of the total length. The caudal fin is very deeply forked.

The numbers of the fin-rays are D, V, A, C.

Color. In alcoholic specimens, the head and back are umber color; sides and belly yellowish, with metallic lustre. A circular black spot exists at the origin of the lateral line.

Total length seven inches.

Habitat. Fort Reilly, Kansas.

Dr. Wm. A. Hammond has presented the Academy with a single specimen of this *Pimelodus*.

Descriptions of new North American Coleoptera, in the Cabinet of the Entomological Society of Philadelphia.

BY GEO. H. HORN.

NOMARETUS Lec.

N. imperfectus.—Black, smooth and glossy; antennæ and palpi rufous; thorax cordate, canaliculate, narrowed posteriorly, with a slight transverse and rather deep basal impression; elytra each four striate, striæ punctate, and decreasing in length from the suture outwardly, fourth stria obsolescent, the arrangement of the striæ forms an oblong space, which is slightly flattened, sides of elytra smooth and glossy.

Length .40.

Plate 8, fig. 1.

This beautiful little insect, of which but few specimens have been obtained, has been found only in Hampshire county, Virginia, in the most rocky portions 1860.]

of the Allegheny ridge, which traverses that section. The species may be easily distinguished from any other of this genus, by its four striate elytra, the species previously described have their elytra ten or eleven striate.

ARHOPALUS, Serv.

A. Wilsonii.—Brown, head large, eyes and tip of mandibles black; antennæ long, equalling, in males, one and a half times the length of the insect; thorax spheroidal, faintly margined anteriorly and posteriorly with yellow; elytra each with a short basal band of yellow, which does not extend completely over the humerus, an oblique yellow band a little before the middle, which widens as it passes outwardly, with a marginal and a faint sutural extension of the same towards the base of the elytra; femora slightly clavate; posterior tibiæ much flattened, curved, and blackish towards the tips; tarsi testaceous, claws black.

Length, .75.

Plate 8, fig. 4.

Two specimens. Comal county, Texas. It affords me pleasure to dedicate this beautiful species to my friend, Dr. Thomas B. Wilson, whose labors for entomological science I endeavor to acknowledge.

CLYTUS, Fabr.

C. nitidus.—Black, antennæ short, head large, with two vertical yellow lines; thorax spheroidal, margined anteriorly and posteriorly with yellow, at the posterior third are four short yellow bands in one transverse row; elytra with four yellow bands, the third and fourth transverse, the latter terminal, the anterior two bands oblique, and united by a sutural stripe; an obsolete patch of yellow near the humerus; incisures margined with yellow; sides of pectus yellow; legs rufous, hairy; posterior pair elongate; femora clavate, covered with minute cinereous hairs, and blackish towards the tips; posterior femora not spinous.

Length, .42—50.

Plate 8, fig. 2.

Only two specimens have been examined. It may be worthy of notice that these were obtained from widely separated localities. The specimen in the Society's cabinet was taken in Comal county, Texas, while that in the collection of Mr. George Newman was obtained in Gloucester county, N. J. They have been several times compared, and have been found to differ only in size, the Texas specimen being the larger.

LEPTURA, Linn.

L. aurata.—Yellowish; eyes black; labrum sometimes of a metallic green color; head and thorax rufous, the latter somewhat globular, much contracted anteriorly and slightly posteriorly; elytra yellowish, clothed with short golden hairs, densely punctured, slightly narrowed posteriorly, with a lateral and a sutural stripe on each, extending over three-fourths of the length of the elytra. The lateral stripe is sometimes broad and clavate; legs yellowish; femora more or less clavate.

Length, .32—.34.

Plate 8, fig. 5.

Allegheny Ridge, Western Virginia. Abundant. The male of this species is much smaller than the female, more slender in form, and elytra much more narrowed toward the apex, and the lateral and sutural stripes not so broad.

L. nitidicollis.—Black; first joint of the antennæ brown; mandibles and palpi yellowish, with the tip of the former and last joint of the latter blackish; head and thorax glossy, the latter narrowed in front, obtusely

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angulated at the sides, dorsal line distinct; elytra gradually tapering toward the apex, which is round, a linear marginal, and a median yellowish stripe on each elytron, extending nearly to the apex, where it becomes confluent with the suture, the median is suddenly expanded anteriorly to the scutel, and posteriorly from the suture outward; legs rufous; femora slightly clavate, and black toward the tips.

Length, .32—.36.

Plate 8, fig. 6.

Allegheny Ridge, Western Virginia. This species varies by the posterior fourth of the median stripe in some specimens tapering to a point, and in others it is separated from the remainder of the stripe.

The male, as in the former species, is smaller and more slender in form than the female.

ÆGILOPSIS.

Antennæ approximate, longer than the body, densely pilose beneath, first joint cylindrical, equalling in length the third or fourth joint.

Eyes lateral, slightly angulate posteriorly, front elongated, inflexed; head and prothorax of equal breadth; elytra somewhat broader; prothorax unarmed; unguis not connate at base.

This genus belongs in the same group of the Lamiae, with the American genera *Hippopsis* and *Spacalopsis*.

A. cinerea.—Elongate, cinereous, antennæ black, with the proximal extremity of the joints ringed with ash color; thorax cylindrical, much longer than wide, with four longitudinal dark stripes, two lateral, and two close together on the superior surface; elytra, with two dark obsolete stripes on each, one sutural and the other traversing the middle of each elytron; sparsely punctured, with black, erect hairs scattered over the surface; apices of elytra spinous, and slightly pilose.

Length, .25—.30.

Plate 8, fig. 7.

The Society possesses two specimens; they were taken in Comal county, Texas, by E. T. Cresson.

EURYOPTERA.

Eyes deeply emarginate; palpi nearly equal; labrum not emarginate; anterior coxæ not contiguous; meso-sternum triangular, apex acute.

E. sanguinicollis.—Black, opaque, finely granulate, head black, antennæ black, brownish toward the tips, slightly pilose; thorax bright red, slightly canaliculate, twice as broad as long, obtusely angulated on the sides, much contracted posteriorly, narrower than the elytra; elytra black, sides flattened anteriorly, narrowed in the middle, and much broader posteriorly; legs black, pilose; femora strongly clavate; tarsi clothed underneath with silvery white pubescence.

Length, .54.

Plate 8, fig. 3.

Northern New York, Mr. T. B. Ashton. The general appearance of this beautiful insect, is that of a *Callidium*, with a slightly canaliculate thorax; it differs, however, in the non-contiguity of the anterior coxæ.

The Reports of the Recording Secretary, Librarian and Curators were read, as follows:—

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REPORT OF THE RECORDING SECRETARY FOR 1860.

During the year ending 30th November, 1860, there have been elected twenty-one members and six correspondents.

One member has resigned.

Three members have forfeited their membership.

The elections of four members have been reconsidered and declared null and void under Art. IV. of Chapter II. of the By-laws.

Seven members have died, to wit: Major John Le Conte, late Vice-President of the Academy, Mr. George W. Carpenter, late Treasurer of the Academy, Edward Hallowell, M. D., Mr. Augustus E. Jessup, Mr. Peter A. Browne, Bernard Henry, M. D., Henry Clay Caldwell, M. D., late U. S. Navy.

The deaths of the following correspondents have been announced: Mr. Victor Andubon, Prof. A. M. C. Dumeril, Dr. David Dale Owen.

On the 26th of June, Mr. William C. Henszey was unanimously elected Treasurer, to fill the vacancy occasioned by the death of Mr. George W. Carpenter.

During the same period the following papers were read before the Academy, and published in its Proceedings and Journal, except one of those read before the Biological Department, which was published in a medical Journal selected by the author, Mr. Gabb's Catalogue of the Museum and Dr. Fisher's Index, not yet printed.

By J. G. Anthony: "Descriptions of new Species of American fluviatile Gasterpods."

By Charles C. Abbott, six, to wit: "Descriptions of new Species of American fresh-water Fishes." "Description of a new Species of *Chatoëssus*, etc." "Descriptions of new Species of North American Cyprinidæ." "Description of a new species of *Exocetus* from Chili." "Descriptions of new Species of apodal Fishes, etc."

By W. G. Binney, two, to wit: "Notes on American Land Shells, No. 6." "Description of new Species of Pulmonata, etc."

By J. B. Buckley, three, to wit: "Texas Ants." "The Stinging or Mound-making Ant of Texas, etc." "Descriptions of several new Species of Plants."

By P. P. Carpenter, "Notice of a Collection of Shells, made at Cape San Lucas, Lower California."

By John Cassin, four, to wit: "Catalogue of a Collection of Birds, made during the survey of a route for a ship canal across the Isthmus of Darien, etc., with notes and descriptions of new species," two papers. "Descriptions of new Birds of Western Africa, etc.," published in the Journal. "Catalogue of Birds from the Island of St. Thomas, W. I., etc."

By Brackenridge Clemens, M. D., five, to wit: "Contributions to American Lepidopterology," parts 3, 4, 5, 6, 7.

By T. A. Conrad, three, to wit: "Descriptions of new Cretaceous and Eocene Shells of Mississippi and Alabama, etc.," two papers, published in the Journal. "Notes on Shells."

By E. D. Cope, eight, to wit: "Catalogue of the Venomous Serpents in the Museum of the Academy of Natural Sciences of Philadelphia, etc.," two papers. "Catalogue of the Calamarian Serpents in the Museum of the Academy of Natural Sciences of Philadelphia." "Catalogue of the Colubridæ, in the Museum of the Academy of Natural Sciences of Philadelphia," with notes and descriptions of new Species. "Notes and Descriptions of new and little-known American Reptiles." "Descriptions of Reptiles from tropical America and Asia." "The Reptilia of the North Pacific Exploring Expedition, etc., by Edward Hallowell, M. D., edited by E. D. Cope." "Descriptions of new Species of the Reptilian Genera *Hyperolius*, *Liuperus* and *Tropidodipsas*."

By Rafael Montes d'Oca, four, to wit: "The Mexican Humming Birds," parts 1, 2, 3 and 4.

By James C. Fisher, M. D.: "Index to the Genera described or referred to

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in the first series of the Proceedings of the Academy of Natural Sciences of Philadelphia, vols. i. to viii. part 1."

By William M. Gabb, ten, to wit: "Descriptions of new Species of Fossils, probably Triassic, from Virginia," published in the Journal. "Descriptions of new Species of Cretaceous Fossils," published in the Journal. "Descriptions of new Species of Cretaceous Fossils from New Jersey." "Descriptions of some Cretaceous Fossils from South America, etc." "On the identity of Ammonites Texanus, Roemer, and A. vespertinus, Morton." "Catalogue of the Museum of the Academy of Natural Sciences of Philadelphia." "Description of a new Species of Cephalopods from the Eocene of Texas." "Descriptions of new Species of Cretaceous and Tertiary Fossils," published in the Journal. "Descriptions of a new Species of Cassidulus, etc." "Descriptions of a new Genera and Species of Amorphozoa, etc."

By Wm. M. Gabb and George H. Horn, "Descriptions of new Cretaceous Corals from New Jersey."

By Theodore Gill, six, to wit: "Notes on the Nomenclature of North American Fishes." "On the pertinence of the *Alosa teres*, De Kay, to the Genus *Dussumiera*." "Conspectus Piscium in Expeditione ad Oceanum Pacificum septentrionalem C. Ringgold et J. Rodgers ducibus a W. Stimpson, M. D., collectorum: Sicydianæ." "Monograph of the Genus *Labrisomus*." "Monograph of the Genus *Labrax*, Cuv." "Monograph of the *Philypnæ*."

By W. A. Hammond, M. D., U. S. A., and S. W. Mitchell, M. D.: "On the physical and chemical characteristics of Corroval and Vao, etc., and on a new alkaloid containing their active principle."

By George H. Horn, three, to wit: "Descriptions of three new species of *Gorgonidæ*." "On Milne Edwards' Synonymy of *Xiphigorgia setacea*." "Descriptions of new Corals in the Museum of the Academy of Natural Sciences of Philadelphia."

By Robert Kennicott, "Descriptions of new North American Reptiles, etc."

By J. W. Lapham, "A list of the Fresh-water Shells of the State of Wisconsin."

By Isaac Lea, LL.D., thirteen, to wit: "Description of three new Species of Exotic Uniones." "Description of Exotic Unionidæ," published in the Journal. "Description of four new Species of Unionidæ." "Description of fifteen new Species of Uruguayan Unionidæ." "Descriptions of five new Species of Uniones from Alabama." "Descriptions of four new Species of *Melaniania* of the United States." "Descriptions of fourteen new Species of *Schizostoma*, *Annulosa* and *Lithasia*." "Descriptions of two new Species of Uniones from Georgia." "Descriptions of three new Species of Uniones from Mexico." "Descriptions of six new Species of Unionidæ from Alabama." "Descriptions of seven new Species of Unionidæ from the United States." "Descriptions of three new Species of Exotic Unionidæ." "New Unionidæ of the United States and Northern Mexico," published in the Journal.

By John L. Le Conte, M. D., two, to wit: "Notes on Coleoptera found at Fort Simpson, Mackenzie River, etc." "Synopsis of the Scaphidiidæ of the United States."

By James Lewis, M. D.: "Catalogue of the shell-bearing Mollusca observed in the vicinity of Mohawk, N. Y., etc."

By F. B. Meek, "Description of new fossil remains collected in Nebraska and Utah, etc."

By F. B. Meek and F. V. Hayden, M. D., two, to wit: "Descriptions of new Organic Remains from the Tertiary, Cretaceous and Jurassic rocks of Nebraska." "Systematic Catalogue, with synonymy, etc., of Jurassic, Tertiary and Cretaceous Fossils, collected in Nebraska, etc."

By F. B. Meek and A. H. Worthen, two, to wit: "Descriptions of new Species of Crinoidea, etc." "Descriptions of new Carboniferous Fossils, etc."

By James Aitken Meigs, M. D.: "Observations on the form of the Occiput in the various races of men."

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By R. Ostensacken, "Appendix to the paper entitled 'new Genera and Species of North American Tipulidæ with short palpi.'"

By Temple Prime, two, to wit: "Descriptions of new Species of Cyrena and Corbicula, etc." "Synonymy of the Cyclades, etc., part 3."

By John H. Redfield, "Descriptions of a new Species of Marginella."

By Henry D. Schmidt, "Method of painting moist anatomical preparations."

By Capt. J. H. Simpson, "Notice of Geological Discoveries, etc."

By H. T. Stainton, (London), "Observations on American Tineina."

By William Stimpson. "Prodromus Descriptionis Animalium evertetorum, etc. Pars viii. Crustacea Macrura."

By Philip R. Uhler, "Hemiptera of the North Pacific Exploring Expedition, etc."

By Alexander Wilcocks, M. D.: "Reflections upon the nature of the temporary star of the year 1572, etc." published in the Journal.

By Horatio C. Wood, Jr., three, to wit: "Contributions to the Carboniferous Flora of the United States," Nos. 1 and 2. "Catalogue of Carboniferous Plants in the Museum of the Academy of Natural Sciences of Philadelphia."

By J. J. Woodward, M. D.: "Remarks on errors in the Anatomical Diagnosis of Cancer."

In all ninety-six papers of which three were read before the Biological Department.

The following addition to the By-Laws was adopted on the 31st of January.

CHAPTER XIV.

PUBLICATION FUND.

ARTICLE I.—The Academy hereby establishes a permanent fund to be called the "Publication Fund," the principal of which shall always be kept invested in good securities, and the interest accruing thereupon shall be applied to the payment of the expenses of publishing such matters, stated or occasional, as the Academy may think proper to issue.

ARTICLE II.—All monies which may be paid or contributed to the "Publication Fund," shall be held by the Academy in trust for the purposes set forth in the first article of this chapter.

ARTICLE III.—The said monies shall from time to time be invested in the corporate name of the Academy, in the public loans of the State of Pennsylvania or those of the city of Philadelphia, or in such sound real estate securities as the Academy may direct.

ARTICLE IV.—No investment shall be changed without the consent of the Academy, and all monies received in consequence of any such change shall be invested for the same trusts as the original fund.

ARTICLE V.—The Treasurer shall open a separate account in the proper books of the Academy, under the head of the "Publication Fund," in which shall be entered all payments and contributions for the purposes of said Fund, and all other matters and things relating to said account.

ARTICLE VI.—Any person who shall pay to the Treasurer of the Academy the sum of twenty-five dollars in aid of this fund, shall be entitled to receive a copy of the Proceedings during life, and any person who shall in like manner pay the sum of fifty dollars shall be entitled to receive a copy of the Journal during life.

ARTICLE VII.—To every person whose contribution to the Publication Fund shall entitle him to receive a copy of the Proceedings or Journal or both, a certificate shall be issued, in such form as the Academy shall prescribe, containing a copy of this chapter and a statement of the amount of his contribution.

The following amendment to the By-laws was adopted on the 28th of February:

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The Department B shall be denominated the Geographical Department of the Academy.

No report of the organization of this department has been communicated to the Academy.

All of which is respectfully submitted.

B. HOWARD RAND, M. D.,

Recording Secretary.

REPORT OF THE LIBRARIAN FOR 1860.

The Library of the Academy has, during the past year, been increased by 351 volumes and 629 periodicals and pamphlets, on subjects belonging to the Natural Sciences. Of these works, 111 are from authors, 160 from editors, 321 from Societies, 45 from Dr. J. H. Janeway, 32 from Dr. S. Weir Mitchell, 167 from Dr. Thomas B. Wilson, and 144 from other members and correspondents. During the year that has just closed, 269 volumes have been bound; 71 at the expense of Dr. Wilson, and 198 by the Academy. The department of the Library appropriated to periodicals, as was stated in the last report would be the case, is very much straitened for room, and the recommendation then made in regard to the construction of additional cases is now repeated. Unless additional room is obtained, it will be impossible to place the books properly upon the shelves. No books are believed to have been lost or missed from the Library during the last year.

It is of great importance that all valuable books of Natural Science, in all its departments, should be added to the Library as soon as they are published, in order that it may keep pace with the progress of knowledge and maintain that superiority as a Library of reference which it now possesses. The ordinary means of the Academy will not permit this, and meet its other necessary expenses. Several gentlemen have united in a subscription of a certain sum per annum for 5 years, to meet this want. These subscriptions are not binding unless 25 subscribers are obtained. Four are yet wanting to complete the number, and it is hoped that these will soon be found, so that the Library may be placed in such a condition as will secure its most eminent usefulness in the cause of Science.

Respectfully submitted,

JAMES C. FISHER, M.D.,

Librarian.

REPORT OF THE CURATORS FOR 1860.

All departments of the Museum of the Academy under the general charge of the Curators, continue in their usual good state of preservation, exhibit great forwardness in their arrangement, and have been constantly increasing through donations.

Since the last Report was presented to the Academy, the following additions have been made to the collections:

Mammals.—Of these, 32 specimens of 23 species have been received. Among them may be especially mentioned a fine specimen of the Moose, presented by H. T. Desilver, Esq. The others were presented by the Smithsonian Institution, John Krider, Dr. J. H. Slack, Dr. Jos. Wilson, Capt. J. M. Dow, Major Le Conte, C. J. Hering, D. Samuel, and Dr. Corse.*

Birds.—During the present year the extensive collection of birds, for which the Museum of the Academy has been especially distinguished, numbering about 26,000 mounted specimens, but which had merely been deposited with

* The names of the donors are given in the order of value of their contributions.

the Academy by Dr. Thomas B. Wilson, was now presented by this gentleman to the Institution.* In addition to these, Dr. Wilson presented 2000 skins, or unmounted specimens, and more recently 27 birds from Jalapa, Mexico.

54 specimens, 34 species of birds collected by Mr. Du Chaillu, in Western Africa, were purchased and presented by Dr. T. B. Wilson, Jos. Jeanes, Sam. Jeanes, Ed. Harris, I. Lea, W. S. Vaux, Dr. J. D. Logan, J. C. Trautwine, Dr. W. M. Uhler, E. Durand, C. E. Smith, Aubrey H. Smith, W. P. Foulke, Fairman Rogers, Dr. J. L. Le Conte, and Jos. Leidy.

17 specimens of birds from Hudson Bay were presented by the Smithsonian Institution; specimens were presented by Dr. Jos. Wilson and Lieut. Thos. T. Field; an interesting collection from St. Thomas, W. I., was presented by Robt. Swift, and a collection from New Grenada, S. A., by Wm. P. Breed. In addition, Dr. J. K. Kane presented a collection of eggs, obtained by his brother in the Arctic region.

Reptiles.—Of these, the Smithsonian Institution presented 80 specimens of 48 species, all North American, and mostly Western; Dr. T. B. Wilson presented 100 specimens of 16 species from Jalapa, Mexico; and others were received from Dr. J. H. Slack, Dr. Jos. Wilson, Major Le Conte, Capt. John M. Dow, E. T. Cresson, W. J. Taylor, John Krider, Van Amburg & Co., Sam. Darrach, Dr. Semple, and Messrs. Cope and Powel.

Fishes.—Of these, Dr. J. H. Slack presented a collection from Minnesota, consisting of 100 specimens of 8 species; Mr. C. C. Abbott presented 16 specimens of 11 species; Mr. S. Ashmead 7 species; and others were presented by Isaac Tyson, Major Le Conte, T. W. Norris, S. Powel, W. Coleman, Dr. T. C. Dunn, Dr. J. C. Morris, W. E. Halloway, L. Purves, Dr. R. P. Harris, E. F. Mason, and N. and E. Smith.

Mollusks.—The Smithsonian Institution presented 350 species marine and fluviatile shells, from Wilkes' Exploring Expedition; Mr. S. S. Haldeman presented 42 fluviatile shells, being types of descriptions and figures; Mr. J. S. Phillips presented 51 fluviatile gasteropods, not previously in the collection of the Academy; F. A. Sauvalle presented 93 species of Cuban terrestrial gasteropods; Temple Prime 47 cyclididæ; Mr. Binney 42 species of shells; and others were presented by the Smithsonian Institution, Edward M. Kern, A. A. Gould, Isaac Lea, R. Swift, Capt. M. Blanchard, Dr. Jos. Wilson, Dr. N. Koller, and Lieut. T. Y. Field.

Articulates.—Messrs. C. C. Abbott, H. C. Wood, G. H. Horn, and E. L. Cope presented 380 specimens of about 50 species of spiders, collected in Pennsylvania and New Jersey; J. M. Glasco presented 150 coleoptera, from Texas; and other insects, spiders, myriapods and crustacea were presented by Isaac Tyson, Augustus Milson, Capt. John M. Dow, Dr. Semple, Dr. Bridges, Mr. Powel, and Mr. Ashmead.

Radiates.—5 Echinoderms were presented by Dr. Jos. Wilson; 1 by Capt. Dow; and specimens of Hyalonema were presented by Dr. Ruschenberger and Dr. Sinclair.

Anatomy.—The skull of a walrus was presented by Dr. J. K. Kane; the skull of a Camanche Indian by A. E. Carothers; and miscellaneous specimens were presented by Dr. J. B. S. Jackson, Samuel Darrach, and C. C. Abbott. The widow of the late Peter A. Browne presented to the Academy his collection of the hairs of the various species of men and inferior animals.

Organic Remains.—A large collection of coal plants of Pennsylvania, consisting of upwards of 700 specimens, were purchased from Eli Bowen and presented by Joseph Jeanes, Isaac Lea, W. S. Vaux, W. R. Lejee, E. S. Whelen, Dr. Le Conte, Dr. T. B. Wilson, W. Mactier, B. Marsh, J. C. Trautwine, W. C. Henszey,

* See page 86 of this volume of the Proceedings.

Foulke, Jos. P. Smith, Ch. E. Smith, Saunders Lewis, Griffith, and Cooke. Mr. W. S. Vaux presented 20 specimens of 15 species of coal plants, and others were presented by Dr. W. C. Dixon, H. C. Wood, W. M. Gabb, M. Baird, T. Ward, and J. T. Piggott.

Dr. J. H. Slack presented a valuable collection of remains of *Mosasaurus*, *Myliobates* and *Charcarodon*, from the New Jersey green sand; Messrs. Abbott and H. C. Wood presented remains of *Crocodylus*, *Priscodelphinus*, and Turtles, from New Jersey; and Mr. Abbott also presented remains of several extinct fishes. Mr. Lea presented several bones of the extinct *Hippopotamus* of Italy; Prof. Rogers a saurian vertebra from the North Carolina coal field; and A. C. Orrick a *Mastodon* tooth from Missouri.

Small collections of invertebrate fossils were presented by W. M. Gabb, E. L. Perkins, C. C. Abbott, F. Kellog, Dr. C. M. Wetherill, Dr. Moore, E. D. Cope, H. C. Wood, C. C. Cadwalader, W. J. Taylor, P. T. Tyson, T. A. Conrad, and A. L. Gerhart.

Minerals.—Specimens of coals and mineral oils, from Western Pennsylvania, were presented by G. T. Lewis; and Dr. W. M. Garsia presented 20 specimens of mineral from Chili. Other specimens were presented by Capt. Nicholson, W. S. Vaux, T. F. Moss, E. L. Perkins, W. L. Mactier, J. H. Janeway, J. H. Thompson, Potts & Klett, P. C. Horn, Dunlap, Rand, Hartman, Lea, Marsh, McKibben, Short, Hanson, Wood, Hœckley, and Pierce.

Botany.—H. W. Ravenel presented the 5th fasciculus of his *Fungi Caroliniani*, and Cryptogamic specimens were presented by H. C. Wood, Dr. Hufnagle, D. R. Bennett, Rand, and Kaull.

Submitted by

JOSEPH LEIDY,

Chairman of the Curators.

The Committee on the Jessup Fund presented the following rules, which were adopted:—

I. Applications for benefits from the Jessup Fund shall be made in writing to the Committee every three months.

II. Benefits from the Fund shall not be received by the same person for a longer period than two years, without the unanimous consent of the Committee.

III. The beneficiaries shall devote one-half of their time, under the direction of the Committee, to the study and arrangement of the Museum of the Academy.

IV. Each beneficiary shall receive \$20 monthly by an order from the Committee on the Treasurer.

The following amendment to the By-Laws was finally adopted:—To Article VII. Chapter 10, add the words, “of more than twenty of those extra copies.”

The election of Officers for the ensuing year was held in accordance with the By-Laws, with the following result :—

<i>President,</i>	.	.	.	.	ISAAC LEA, LL. D.
<i>Vice-Presidents,</i>	.	.	.	.	Robert Bridges, M. D., Wm. S. Vaux.
<i>Corresponding Secretary,</i>	.	.	.	.	Thomas Stewardson, M. D.
<i>Recording Secretary,</i>	.	.	.	.	B. Howard Rand, M. D.
<i>Librarian,</i>	.	.	.	.	James C. Fisher, M. D.
<i>Treasurer,</i>	.	.	.	.	Wm. C. Henszey.
<i>Curators,</i>	.	.	.	.	Joseph Leidy, M. D., Wm. S. Vaux, John Cassin, J. Dickinson Sergeant.
<i>Auditors,</i>	.	.	.	.	Wm. S. Vaux, Joseph Jeanes, Aubrey H. Smith.
<i>Publication Committee,</i>	.	.	.	.	Wm. S. Vaux, Isaac Lea, Robert Bridges, Joseph Leidy, Thomas Stewardson.